## PIEZOELECTRIC ELEMENT AND LAMINATED PIEZOELECTRIC ACTUATOR

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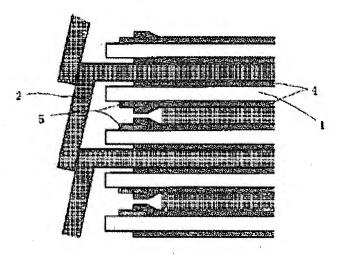
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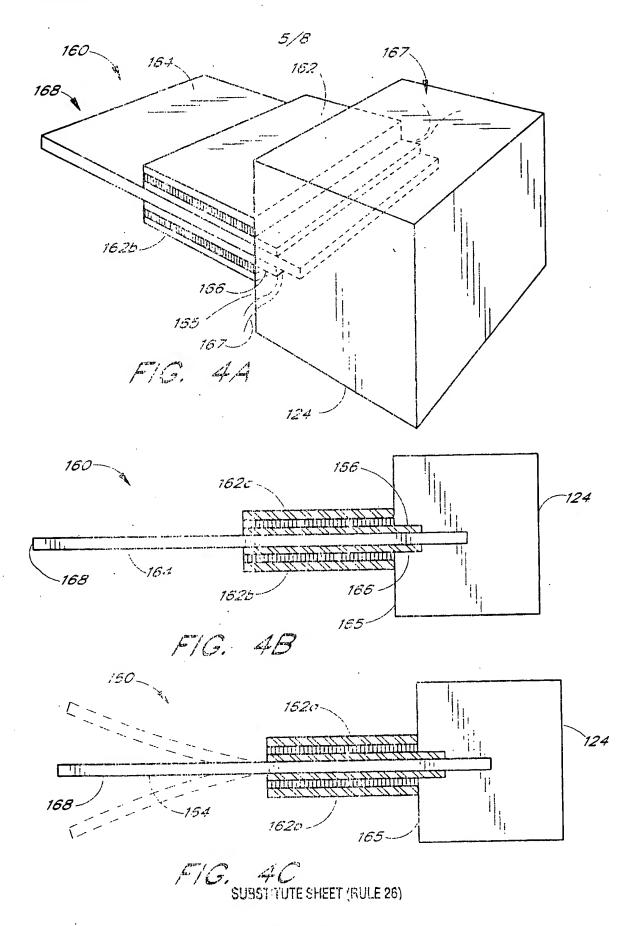
## Abstract of JP2000294843

PROBLEM TO BE SOLVED: To obtain a laminated piezoelectric actuator using such a highly reliable piezoelectric element that the element does not crack even when the element is repeatedly operated, because the electric field applied upon the peripheral portions of the internal electrodes of the element continuously becomes lower in the portions, even when the internal electrodes do not have unique shapes. SOLUTION: A piezoelectric element sandwiches a piezoelectric element substrate 1 between internal electrode layers 4. Layers 5 having lower dielectric constants than the substrate 1 has are respectively interposed between the substrate 1 and the peripheral sections of the electrode layers 4. A laminated piezoelectric actuator is constituted by alternately laminating piezoelectric elements thus constituted and metallic plates 2 upon another. Therefore, such a highly reliable piezoelectric element that the substrate of the element does not crack even when the element is repeatedly driven, because the electric field applied upon the portion of the substrate around the internal electrodes continuously becomes lower in the portion even when the electrode do not have unique shapes, and a laminated piezoelectric actuator using the piezoelectric element can be provided.



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